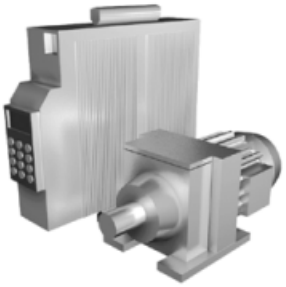
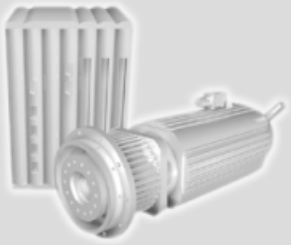
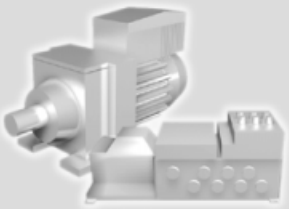
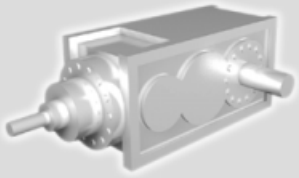
SEW EURODRIVE







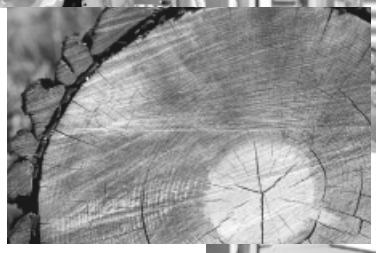


MOVITRAC® B
Basic unit

GA3A000

Edition 07/2006
11469412 / EN

Operating Instructions



SEW
EURODRIVE

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1 Important notes

1.1 Explanation of pictograms

Always follow the safety and warning notes in this publication.

Hazard

Indicates an imminently hazardous situation, which if not avoided, WILL result in death or serious injury.

Warning

Indicates an imminently hazardous situation caused by the product, which if not avoided, WILL result in death or serious injury. You will also find this signal to indicate the potential for damage to property.

Caution

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor injury or damage to products.

Note

Indicates a reference to useful information, e.g. on startup.

Documentation reference

Indicates a reference to a document, such as operating instructions, catalog, data sheet.

You must adhere to the operating instructions to ensure:

- Fault-free operation
- Fulfillment of any rights to claim under limited warranty

Read the operating instructions before you start working with the unit.

The operating instructions contain important information on servicing. Therefore, keep the manual close to the unit.

1.2 Designated use

The frequency inverters from SEW-EURODRIVE operate AC motors. These motors must be suitable for operation with frequency inverters. Do not connect any other loads to the frequency inverters.

Frequency inverters are devices for stationary installation in control cabinets. Adhere to all instructions referring to the technical data and the permissible conditions where the unit is operated.

Do not start up the unit (take it into operation in the designated fashion) until you have verified that:

- The machine complies with the EMC directive 98/37/EC.
- The end product complies with the Machinery Directive 98/37/EC, also with reference to EN 60204.

1.2.1 Operational environment

The following applications are prohibited unless measures are expressly taken to make them possible:

- Use in potentially explosive areas.
- Operation in environments with harmful substances to EN 60721, such as oils, acids, gases, vapors, dusts, radiations.
- Operation with mechanical vibration and shock loads in excess of the regulations stipulated in EN 61800-5-1.
- If the inverter performs safety functions that have to guarantee the protection of machinery and people.

1.3 Disposal

Please follow the current regulations: Dispose in accordance with the material structure and the regulations in force.

2 Safety notes

2.1 Installation and startup

- Never install damaged products or take them into operation. Submit a complaint to the shipping company immediately in the event of damage.
- Installation, startup and service work on the unit to be performed by trained personnel only. Such personnel must have undergone accident prevention training and adhere to the applicable regulations (such as EN 60204, VBG 4, DIN-VDE 0100/ 0113/0160).
- Follow the specific instructions during installation and startup of the motor and the brake!

- Preventive measures and protection devices must correspond to the regulations in force (e.g. EN 60204 or EN 61800-5-1).

  The unit must be grounded as a protective measure.

  Overcurrent protection devices are a necessary protection device.
- The unit meets all requirements for reliable isolation of power and electronics connections in accordance with EN 61800-5-1. All connected circuits must also satisfy the requirements for reliable isolation so as to guarantee reliable isolation.
- Take suitable measures to ensure that the connected motor does not start up automatically when the inverter is switched on (for example by disconnecting the electronics terminal block).

2.2 Operation and service

- Disconnect the unit from power supply before you remove the protective cover. Dangerous voltages may still be present for up to ten minutes after disconnection from the power supply source.

- The unit has IP00 enclosure with the protective cover removed. Dangerous voltages are present at all subassemblies except for the control electronics. The unit must be closed during operation.
- When the unit switch is in the ON position, dangerous voltages are present at the output terminals as well as any connected cables and motor terminals. Dangerous voltages may even occur if the unit is inhibited and the motor is at standstill.
- The unit may not necessarily be free from any voltages even if the displays are no longer illuminated.

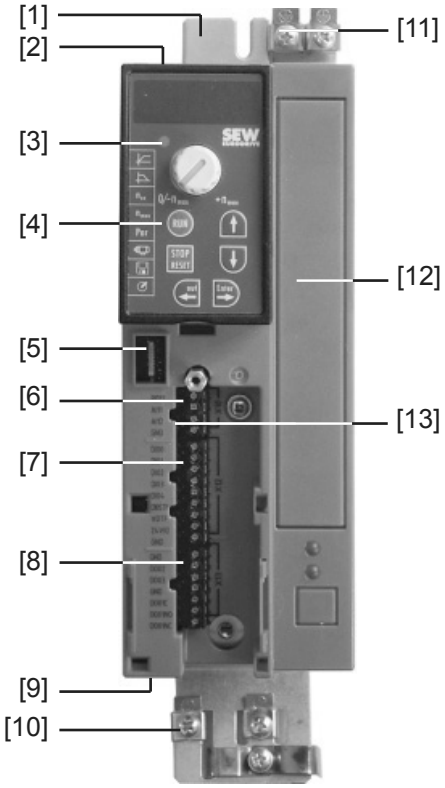
- Safety functions of the unit or mechanical blocking may result in a motor standstill. Removing the cause of this problem or performing a reset can result in the drive re-starting on its own. If, for safety reasons, this is not permitted for the driven machine, disconnect the unit from the mains before correcting the fault.
- Switch the frequency inverter output with inhibited output stage only.
- Ensure a minimum time of 120 s between two mains activations for AC 230 V / 1-phase units.
- Observe a minimum switch-off time of 10 s for 3-phase units.

Risk of burns

Braking resistors have surface temperatures of up to 250 °C.

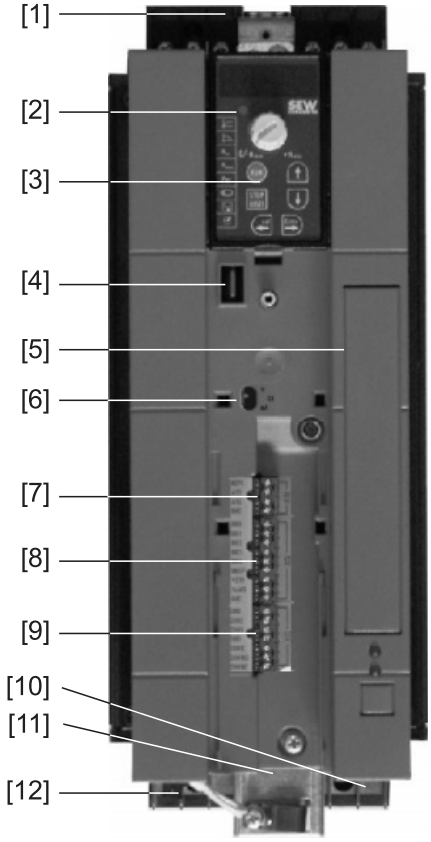
3 Unit design

3.1 Sizes 0XS / 0S / 0L



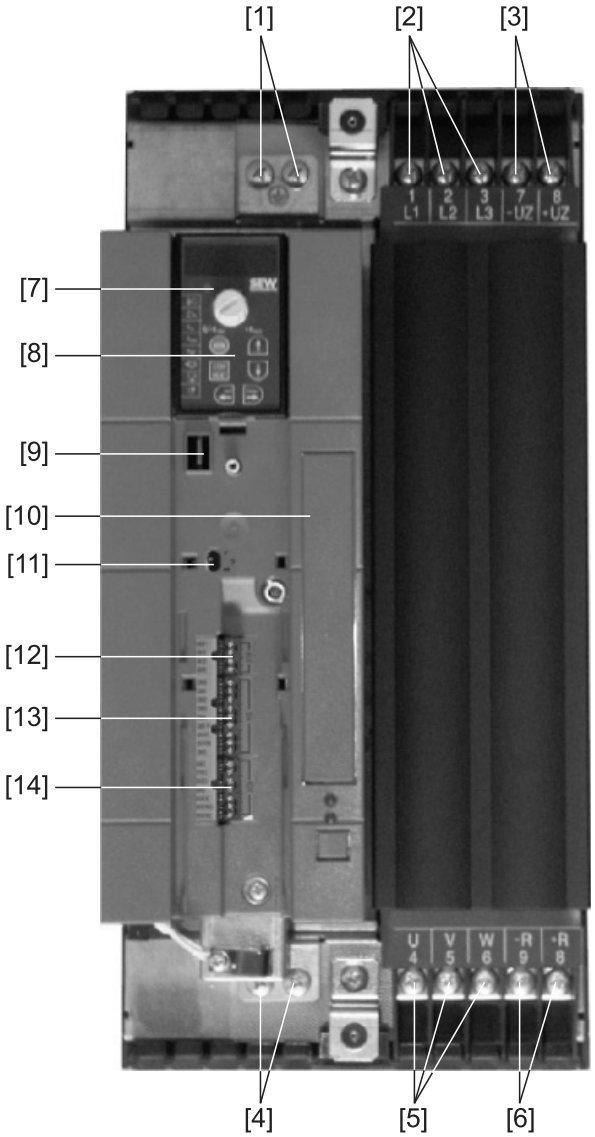
[1] Fixing strap
[2] X1: Power supply connection:
3-phase: L1 / L2 / L3
1-phase: L / N
[3] Status LED (visible without optional keypad)
[4] Optional keypad
[5] Connection for optional communication / analog module
[6] X10: Analog input
[7] X12: Binary inputs
[8] X13: Binary outputs
[9] X2: Motor connection U / V / W / Brake connection +R / –R
[10] Shield clamp, fixing strap below
[11] PE connection
[12] Option card slot (cannot be retrofitted / not for BG0XS)
[13] Switch S11 for V-mA toggle analog input
(in size 0XS and 0S behind removable connector)

3.2 Sizes 2S / 2



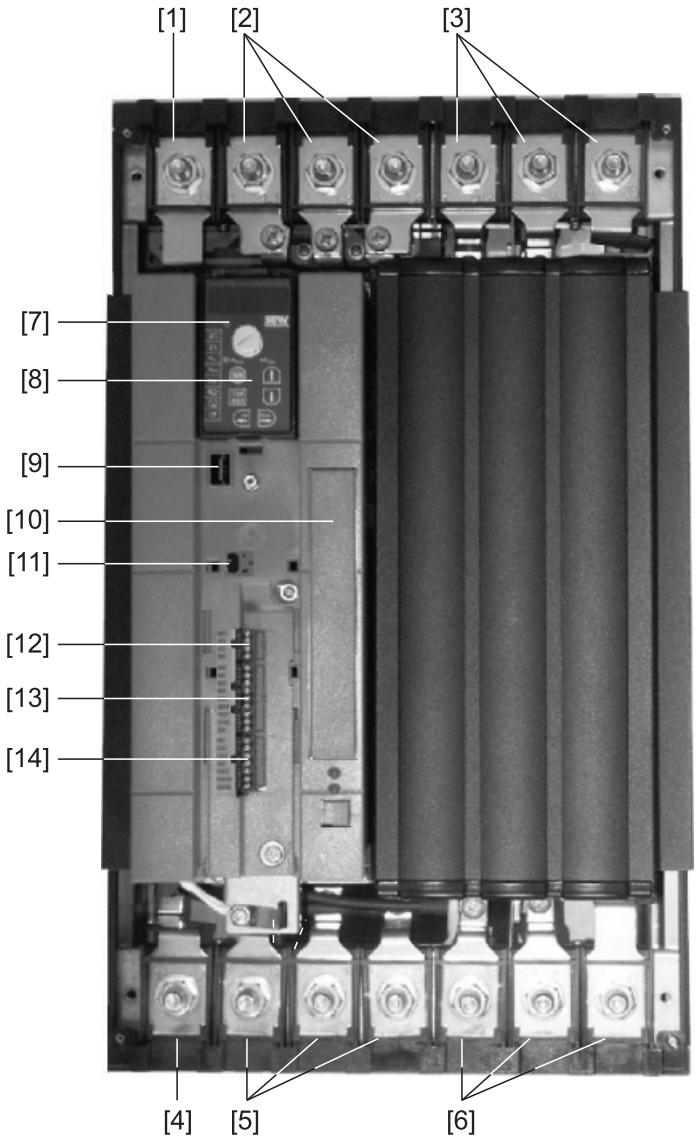
[1] X1: Mains connection 3-phase: L1 / L2 / L3 / PE screw
[2] Status LED (visible without optional keypad)
[3] Optional keypad
[4] Connection for optional communication / analog module
[5] Option card slot
[6] Switch S11 for V-mA toggle analog input
[7] X10: Analog input
[8] X12: Binary inputs
[9] X13: Binary outputs
[10] X2: Motor connection U / V / W / PE screw
[11] Space for power shield clamp
[12] X3: Braking resistor connection R+ / R– / PE

3.3 Size 3



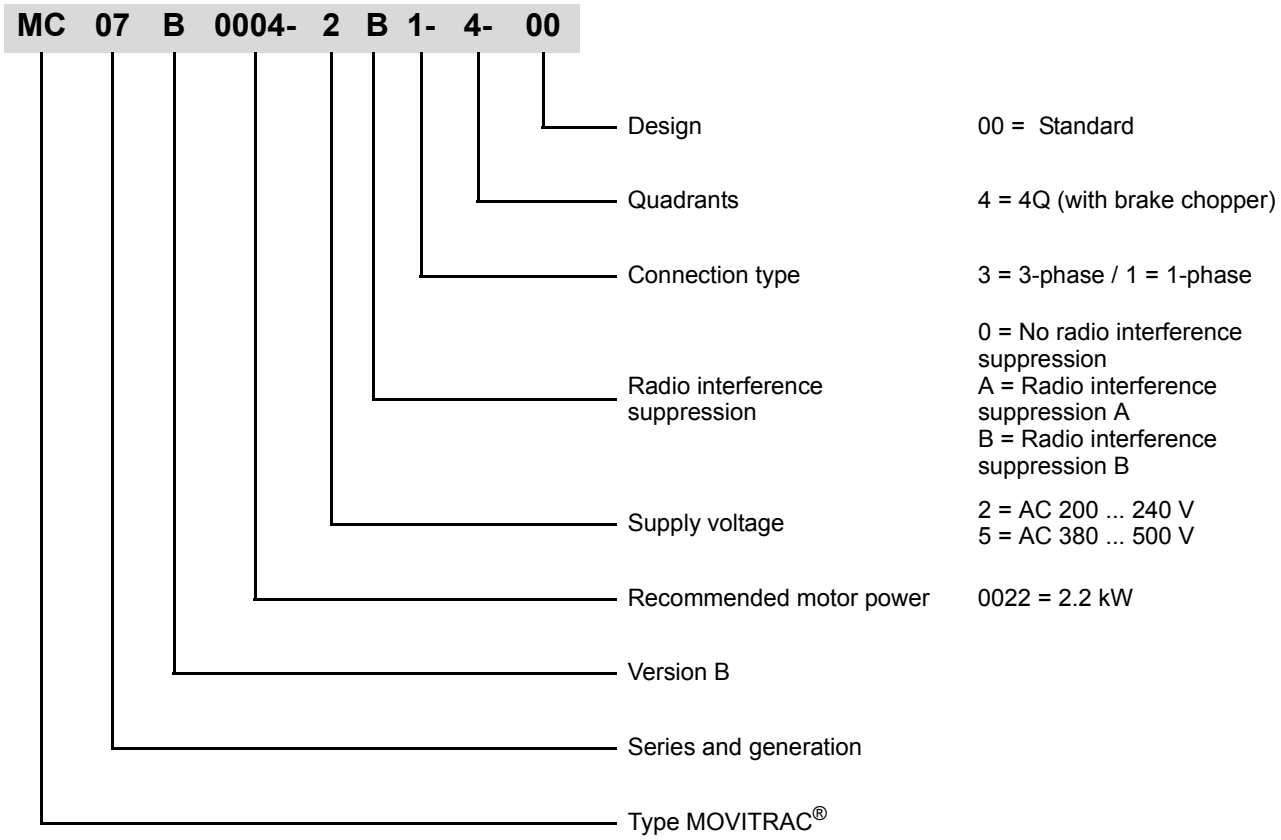
[1] X2: PE connection
[2] X1: Mains connection 3-phase: L1 (1) / L2 (2) / L3 (3)
[3] X4: DC link circuit connection (not used)
[4] X2: PE connection
[5] X2: Motor connection U (4) / V (5) / W (6)
[6] X3: Braking resistor connection R+ (8) / R– (9) and PE connection
[7] Status LED (visible without optional keypad)
[8] Optional keypad
[9] Connection for optional communication / analog module
[10] Option card slot
[11] Switch S11 for V-mA toggle analog input
[12] X10: Analog input
[13] X12: Binary inputs
[14] X13: Binary outputs

3.4 Size 4



[1] X2: PE connection
[2] X1: Mains connection 3-phase: L1 (1) / L2 (2) / L3 (3)
[3] X4: DC link circuit connection (not used)
[4] X2: PE connection
[5] X2: Motor connection U (4) / V (5) / W (6)
[6] X3: Braking resistor connection R+ (8) / R– (9) and PE connection
[7] Status LED (visible without optional keypad)
[8] Optional keypad
[9] Connection for optional communication / analog module
[10] Option card slot
[11] Switch S11 for V-mA toggle analog input
[12] X10: Analog input
[13] X12: Binary inputs
[14] X13: Binary outputs

3.5 Unit designation

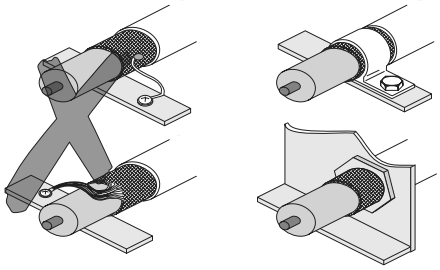

MC 07 B 0004- 2 B 1- 4- 00
Design
00 = Standard
Quadrants
4 = 4Q (with brake chopper)
Connection type
3 = 3-phase / 1 = 1-phase
Radio interference suppression
0 = No radio interference suppression
A = Radio interference suppression A
B = Radio interference suppression B
Supply voltage
2 = AC 200 ... 240 V
5 = AC 380 ... 500 V
Recommended motor power
0022 = 2.2 kW
Version B
Series and generation
Type MOVITRAC®

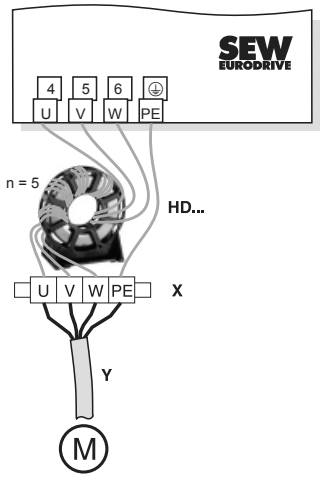
4 Installation

4.1 Installation notes

Comply with the safety notes during installation.

Tightening torques	**Basic unit power terminals:** • Only use **genuine connection elements**. Note the **permitted tightening torques** of MOVITRAC® B power terminals. – Size 0S / 0L: 0.5 Nm (4.4 lb.in)
	Line choke: • ND020-013: 0.6 ... 0.8 Nm • ND027-123: 4.0 ... 4.5 Nm • ND035-073: 4.0 ... 4.5 Nm • ND010-301: 0.6 Nm • ND020-151: 1.5 Nm
	Line filter: • NF009-503: 0.6 ... 0.8 Nm
	Output filter: • HF008 / 015 / 022 / 030 / 040-503: 1.6 Nm ± 20 %
Recommended tools	• Use a screwdriver with a 2.5 mm wide blade for connecting the electronics terminal strip X10 / X12 / X13.
Minimum clearance and mounting position	• Leave **100 mm (4 in) clearance at the top and bottom** for optimum cooling. There is no need for clearance at the sides. You can line up the units directly next to one another. Make sure that the circulation of air is not disrupted by cables or other installation materials. Prevent the heated exhaust air from other units from blowing onto this unit. **Install the units vertically only.** You must not install them horizontally, tilted or upside down.
Line choke	• When more than four **3-phase units** or **more than one 1-phase unit** are connected to a **supply system contactor** designed for the total current: **Insert a line choke** in the circuit to limit the inrush current.
Separate cable ducts	• Route power leads and electronics leads in separate cable ducts.
Fuses and earth-leakage circuit breaker	• Install **input fuses at the start of the supply system lead** after the supply bus junction. Use D, DO, NH fuse types or power circuit breakers. **Earth-leakage circuit breaker as sole protection device:** Only use earth leakage circuit breakers type B according to EN 61800-5-1.
PE input connection	• Connect the PE conductor according to the relevant regulations that are applicable in the specific country. Connect the protective earth connector of the motor to the PE terminal of the corresponding inverter. Ground all units over a large area via short ground connections with large cross-section to a mutual earthable point or a grounding bar. Make sure the connection between inverter and earthed metallic installation platform is conductive (large area metal-on-metal contact between the heat sink and ground, e.g. unpainted control cabinet mounting panel). Use high-frequency compatible earthing strips if necessary). Establish a high-frequency equipotential bonding between system / control cabinet and drive / motor (e. g. by a continuous cable rack).

Shielding and earthing	• Shield the control cables and use the shield clamps. • Connect the shield by the shortest possible route and make sure it is earthed over a wide area at both ends. • You can ground one end of the shield via a suppression capacitor (220 nF / 50 V) to avoid ground loops. • If using double-shielded cables, ground the outer shield on the inverter end and the inner shield on the other end. • Provide high frequency compatible earthing for MOVITRAC® B and all additional units (wide area metal-on-metal contact between the heat sink and ground with unpainted switch cabinet mounting panel).  • Any crossovers of control cable and power cables must be at a right angle. • You can also use earthed sheet-metal ducts or metal pipes to shield the cables.
IT systems	• SEW recommends using **earth-leakage monitors with pulse code measuring** in voltage supply systems with a non-earthed star point (IT systems). Use of such devices prevents the earth-leakage monitor mis-tripping due to the earth capacitance of the inverter. • For size 0, SEW recommends deactivating the interference suppressor filter using the enclosed insulation discs (see next section).
Contactor	• Only use contactors in utilization category AC-3 (EN 60947-4-1).
Cross-sections	• Supply system lead: **Cross-section according to rated input current** I_{Mains} at rated load. Motor cable: **Cross-section according to rated output current** I_N. Electronics cables: Maximum 1.5 mm^2 (AWG16) without conductor end sleeves Maximum 1.0 mm^2 (AWG17) with conductor end sleeves
Cable lengths for individual drives	The line lengths depend on the PWM frequency. The permitted motor line lengths are listed in the "Project Planning" section of the MOVITRAC® B System Manual.
Unit output	• Only connect an **ohmic/inductive load (motor)**; do not connect a capacitive load!
Braking resistor connection	• Cut the lines to the required length. • Use **2 tightly twisted leads or a 2-core shielded power cable**. Cross-section according to the rated output current of the inverter. • Protect the braking resistor with a **bimetallic relay** with trip class 10 or 10A (wiring diagram). Set the **trip current** according to the **technical data of the braking resistor**. • For braking resistors in the **BW..-T** series, you can connect the **integrated thermostat using a 2-core, shielded cable** as an **alternative** to a bimetallic relay. • The **flat-design braking resistors** have internal thermal overload protection (fuse cannot be replaced). Install the **flat-design braking resistors** together with the appropriate **touch guard**.
Binary outputs	• **Binary outputs** are **short-circuit proof** and **interference-voltage-proof** up to 30 V. Higher external voltages can destroy the binary outputs.
Interference emission	• Use shielded motor lines for an EMC compliant installation.
Switched inductances	• Use suppressors to suppress interference on contactors, relays, solenoid valves, etc. • The minimum distance to the inverter must be 150 mm.

Line filter	MOVITRAC® B frequency inverters have an integrated line filter as standard. They comply with the following limit value class to EN 55011 on the line side without further measures: • 1-phase connection: **B** cable conducted • 3-phase connection: **A** STOP No EMC limits are specified for interference emission in voltage supply systems without a grounded star point (IT systems). The effectiveness of line filters is severely limited.
HD output choke	• Install the output choke close to MOVITRAC® B **beyond the minimum clearance**. • Always route all 3 phases (**not PE!**) through the output choke. • If the cable is shielded, the shield should **not** be routed through the output choke.  In the case of the **HD** output choke, the cable must be wrapped around the choke **5 times**. Only 5 loops are possible if the cable has a large diameter. To make up for this, 2 or 3 output chokes should be connected in series. 2 output chokes can be connected in series in case of 4 windings and 3 output chokes in case of 3 windings.

4.2 Deactivate the EMC capacitors (size 0 only)

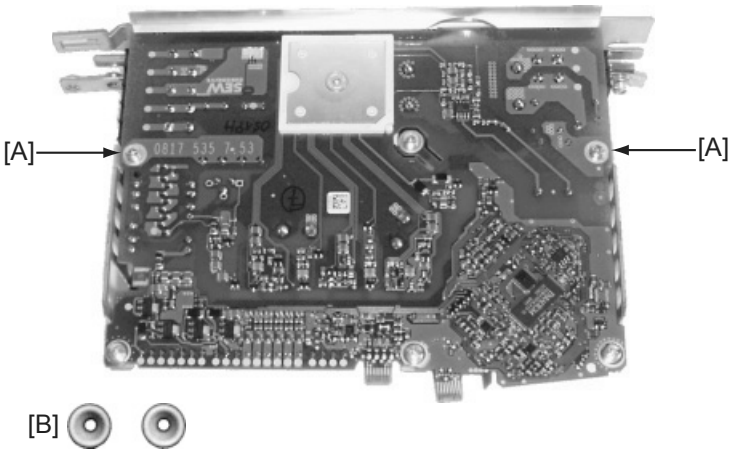
Only electro-technical professionals should carry out any conversions. Once converted, the unit must be marked with the sticker provided in the accessory bag.

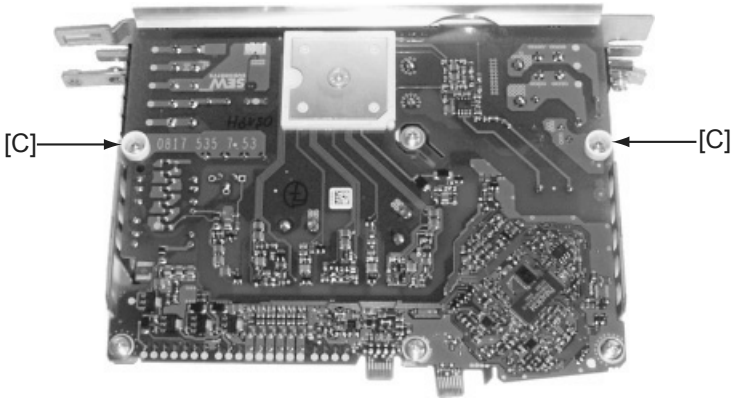
Proceed as follows to deactivate the EMC capacitors for MOVITRAC® B:

STOP

- Disconnect the inverter from the power. Switch off the 24 V DC and the supply voltage.
- Take appropriate measures to avoid electrostatic charges (use discharge strap, conductive shoes, etc.) before removing the cover.
- Touch only the unit frame and heat sink. Do not touch any electronic components.
- Open the unit:
  - Remove **all** connectors.
  - Remove the electronics shield clamp.
  - Remove the housing retaining screw in the center of the housing front.
  - Remove the housing.
- Remove the two screws [A] securing the circuit board.
- Install the screws in the provided plastic insulations [B].

- Fasten screws to the unit [C].
- Close the unit.





Deactivating the EMC capacitors stops earth-leakage currents from flowing over the EMC capacitors.

- Please ensure that the earth-leakage currents are essentially only determined by the level of the DC link voltage, the PWM frequency, the applied motor line and its length and the motor used.

The EMC filter is no longer active when the suppression capacitors are deactivated.

IT systems

- No EMC limits are specified for interference emission in voltage supply systems without a grounded star point (IT systems).

4.3 Installation of Cold Plate

The dissipation of the frequency inverter power loss can take place via coolers that work with different cooling media (air, water, oil, etc.).

A good thermal connection to the cooler is important for safe operation of the frequency inverters:

- The contact area between cooler and frequency inverter has to be the size of the frequency inverter cooling plate.
- Level contact surface, deviation max. up to 0.05 mm.
- Connect cooler and cooling plate with all necessary screw connections.
- The mounting plate must not exceed 70 °C during operation. This limit must be ensured by the cooling medium.
- Cold Plate installation is not possible with FHS or FKB.

4.4 UL compliant installation

Please note the following points for UL compliant installation:

- Use only copper cables with the temperature range 60/75 °C as connection lead:
- Necessary tightening torques of MOVITRAC® B power terminals: See installation notes.
- Operation of inverters on supply systems with a maximum phase-to-earth voltage of AC 300 V only.
- The inverter can only be operated on IT systems if the phase-to-earth voltage of AC 300 V cannot be exceeded either during operation or in case of an error.
- The MOVITRAC® B frequency inverter is only allowed to be operated on supply systems which can supply maximum values in accordance with the following table. Only use melting fuses. The performance data of the fuses must not exceed the values in the following table.

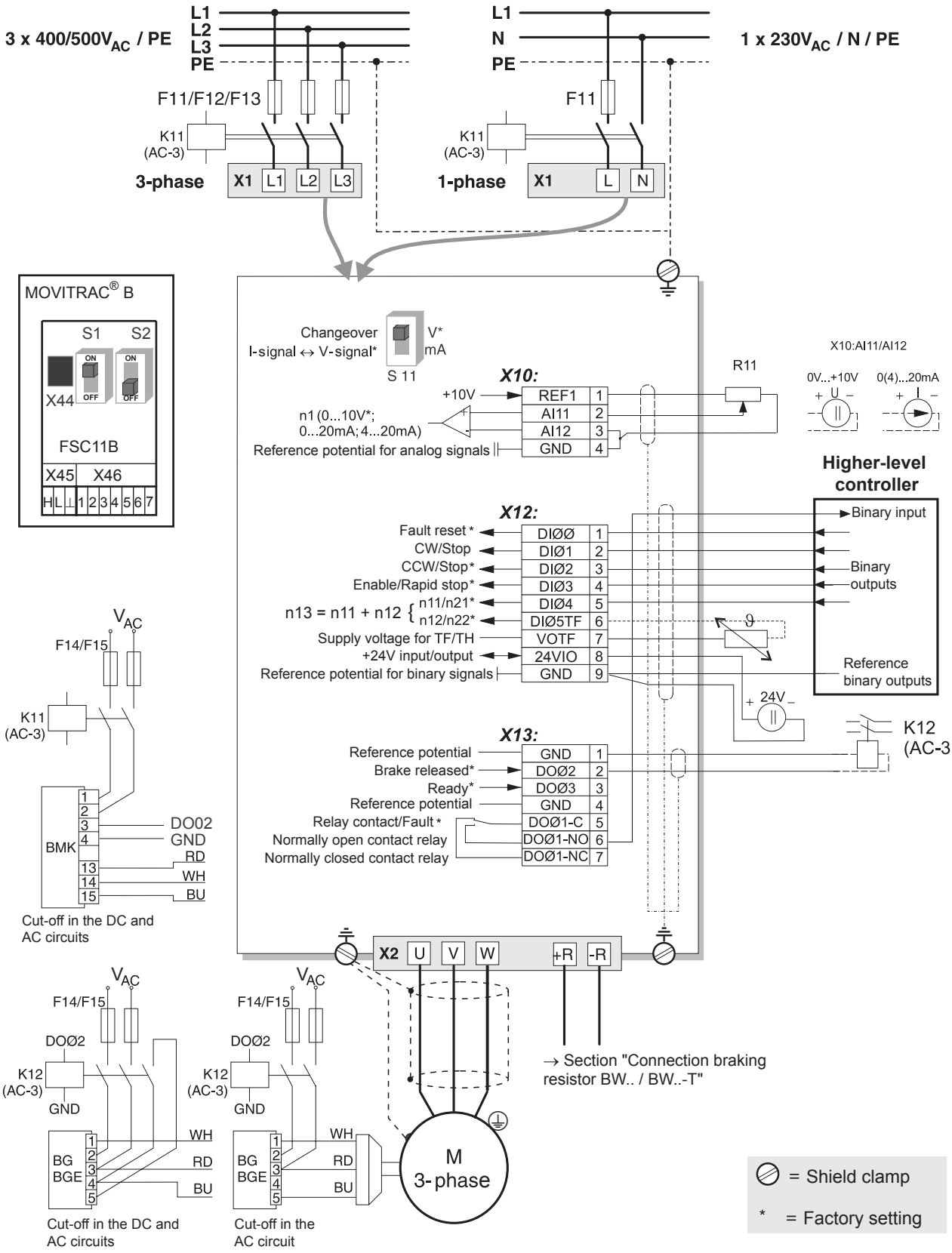
4.4.1 Maximum values / fuses

The following maximum values / fuses must be observed for UL compliant installation:

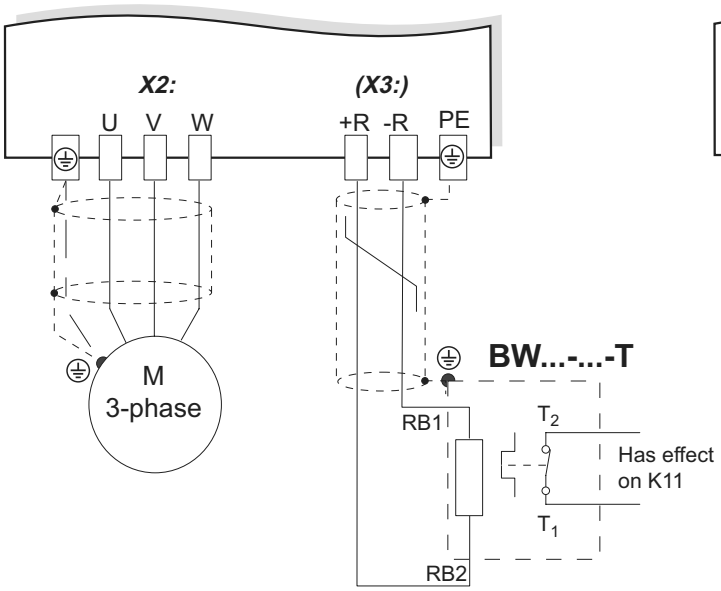
230 V units	Max. supply current	Max. supply voltage	Fuses
0005 / 0008	AC 5000 A	AC 240 V	15 A / 250 V
0011 / 0015 / 0022	AC 5000 A	AC 240 V	30 A / 250 V

400/500 V units	Max. supply current	Max. supply voltage	Fuses
0005 / 0008 / 0011 / 0015	AC 5000 A	AC 500 V	15 A / 600 V
0022 / 0030 / 0040	AC 5000 A	AC 500 V	20 A / 600 V
0055 / 0075	AC 5000 A	AC 500 V	60 A / 600 V
0110	AC 5000 A	AC 500 V	110 A / 600 V
0150 / 0220	AC 5000 A	AC 500 V	175 A / 600 V
0300	AC 5000 A	AC 500 V	225 A / 600 V
0370 / 0450	AC 10000 A	AC 500 V	350 A / 600 V

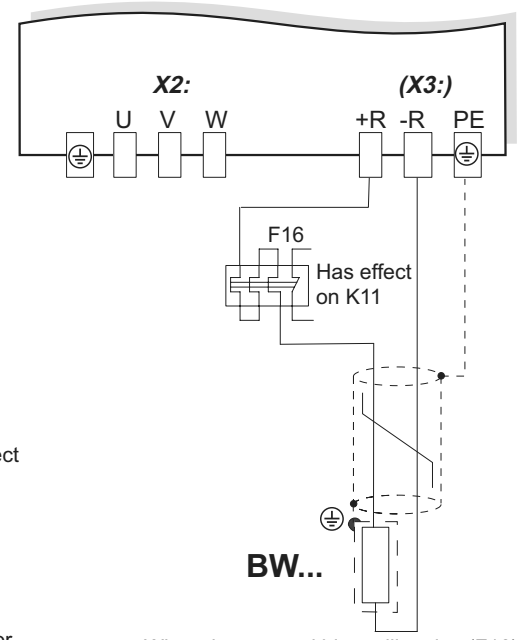
4.5 Wiring diagram 230 V 0.37 ... 2.2 kW / 400 V 0.55 ... 4.0 kW



4.6 Connection braking resistor BW.. / BW..-T



When the internal thermostat triggers, K11 must be opened and DIØØ "Controller inhibit" must have a "0" signal. The resistance circuit must not be interrupted!



When the external bimetallic relay (F16) triggers, K11 must be opened and DIØØ "controller inhibit" must have a "0" signal. The resistance circuit must not be interrupted!

Overload protection for braking resistors BW:

Braking resistor type	Overload protection		
	Design specified	Internal thermostat (..T)	External bimetallic relay (F16)
BW...	–	–	Required
BW...-...-T[1)]	–	One of the two options (internal thermostat / external bimetallic relay) is required.	
BW...-003 / BW...-005	Adequate	–	Permitted

1) Permitted mounting options: On horizontal or vertical surfaces with brackets at the bottom and perforated sheets at top and bottom. **Mounting not permitted:** on vertical surfaces with brackets at the top, right or left.

4.7 Connecting the brake rectifier

The connection of the brake rectifier requires a separate supply system cable; supply from the motor voltage is not permitted!

Use contactors of utilization category AC-3 for K11 and K12 only.

Always disconnect the brake in the DC and AC circuits in:

- All hoist applications.
- Drives which require a rapid brake response time.

If the brake rectifier is installed in the control cabinet, route the connecting leads between the brake rectifier and the brake separately from other power cables. Routing together with other cables is only permitted if the other cables are shielded.

Note the corresponding connection regulations for brakes without BG/BGE or BME. Refer to the SEW publication "Drive Engineering – Practical Implementation, volume 4" for detailed information about this topic.

5 Startup

5.1 General startup instructions

It is essential to comply with the safety notes during startup!

5.1.1 Prerequisite

The drive must be configured correctly to ensure that startup is successful.

MOVITRAC® B frequency inverters are factory set to be taken into operation with the SEW motor adapted to the correct power level (4-pole, 50 Hz) in V/f control mode.

5.2 Preliminary work and resources basic unit

- Check the installation (sec. "Installation").
- Connect the supply system and the motor.
- Connect the signal terminals.
- Switch on the power supply system.

5.3 Starting the motor

5.3.1 Analog setpoints

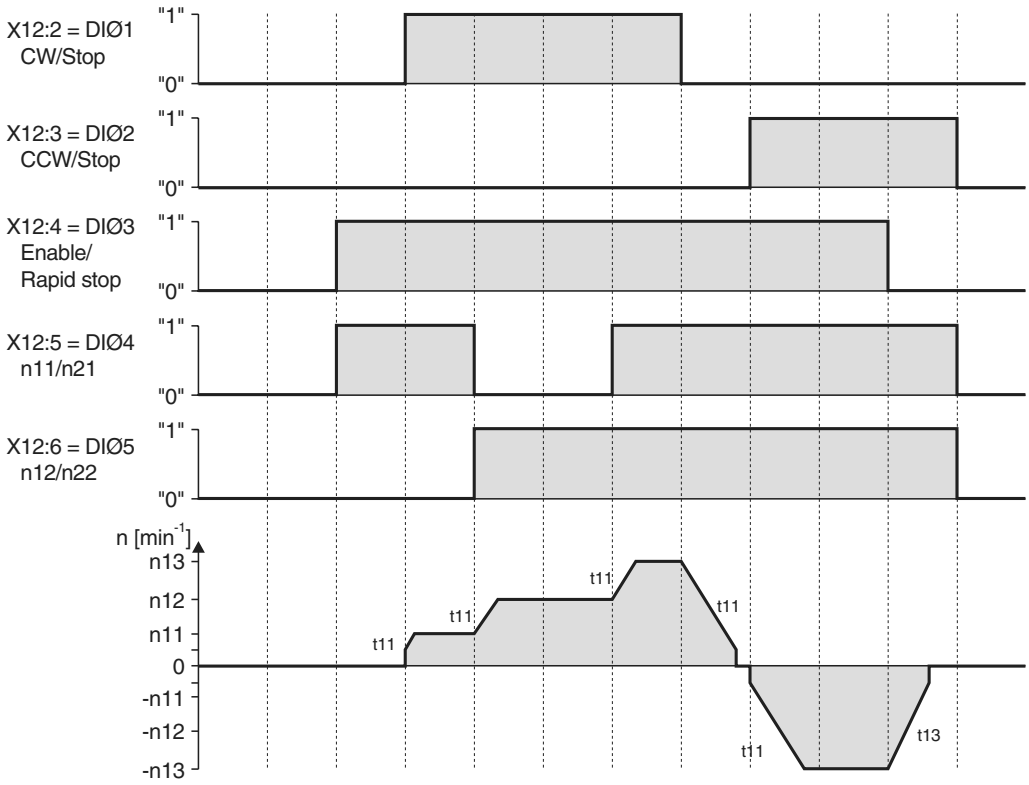
If you want to operate the drive with analog setpoints, use the table below to ensure that, when the "UNIPOL/FIX.SETPT" setpoint (P100) is selected, the correct signals are placed on the terminals X12:2 ... X12:4 (DIØ1 ... DIØ3).

Terminal **Function**	**X10:2/3** **Analog input**	**X12:2** **CW/Stop** **DI01**	**X12:3** **CCW/Stop** **DI02**	**X12:4** **Enable** **DI03**
/No enable	X	X	X	0
Enable and stop	X	0	0	1
CW 50 % of n_{max}	5 V	1	0	1
CW n_{max}	10 V	1	0	1
CCW 50 % of n_{max}	5 V	0	1	1
CCW n_{max}	10 V	0	1	1

X = any / 0 = low / 1 = high

5.3.2 Fixed setpoints

The following travel cycle shows by way of example how the drive is started with the wiring of terminals X12:2...X12:6 and the internal fixed setpoints.



DI04 / n11 and DI05 / n12 active simultaneously results in n13.

Default values: n11 = 150 min^{-1} / n12 = 750 min^{-1} / n13 = 1500 min^{-1}

6 Operation and service

6.1 Device information

6.1.1 Switch-off responses

There are 3 switch-off responses depending on the error:

Response	Description
Immediate stop	This fault response causes immediate locking of the output stage with simultaneous control of the brake output so that an existing brake is applied. The "fault message" is set and the "ready message" is revoked. This fault status can only be exited by an explicit fault reset.
Stop	This fault response causes a stop at the set stop ramp. This fault stop is subject to time monitoring. If the drive does not reach the start / stop speed within a specified time period, the unit jumps to the fault state, the output stage is inhibited and an existing brake is applied. The fault message "F34 Ramp timeout" is generated. The original fault message is overwritten. If the drive reaches the start / stop speed, the unit jumps to the fault message, the brake is applied and the output stage is inhibited. The "fault message" is set and the "ready message" is revoked. This status can only be exited by an explicit fault reset.
Timeout (warning)	The shutdown response causes a stop at the set rapid stop ramp. The stop is subject to time monitoring as for the "fault stop". If the drive reaches the start / stop speed, the unit jumps to the warning state, the brake is applied and the output stage is inhibited. The "fault message" is set and the "ready message" remains set. An explicit fault reset is not possible. The fault is reset when communication is made again or the timeout is set to 0 s.

6.1.2 Reset basic unit

An error message can be acknowledged by:

- Reset via input terminals with an appropriately assigned binary input (DIØØ, DIØ2...DIØ5). Factory setting for DIØØ is error reset.

6.1.3 Current limit

The operation LED will start flashing green when the current limit is reached.

6.2 List of errors (F-00 ... F-97)

No.	Designation	Response	Possible cause	Measure
00	No error			
01	Over-current	Immediate switch-off with inhibit	• Short circuit output • Output switching • Motor too large • Faulty output stage	• Rectify the short circuit • Switching with inhibited output stage only • Connect a smaller motor • Consult SEW Service if the error still cannot be reset
03	Ground fault	Immediate switch-off with inhibit	• Ground fault in motor • Ground fault in inverter • Ground fault in the motor supply lead • Overcurrent (see F-01)	• Replace motor • Replace MOVITRAC® B • Eliminate ground fault • See F-01
04	Brake chopper	Immediate switch-off with inhibit	• Too much regenerative power • Braking resistor circuit interrupted • Short circuit in the braking resistor circuit • Brake resistor has too high resistance • Brake chopper defective • Ground fault	• Extend deceleration ramps • Check supply cable to the braking resistor • Rectify the short circuit • Check technical data of braking resistor • Replace MOVITRAC® B • Eliminate ground fault
06	Phase failure in supply system (only applies to 3-phase inverter)	Immediate switch-off with inhibit	• Phase failure • Supply voltage too low	• Check the supply system lead • Check the supply voltage
07	DC link overvoltage	Immediate switch-off with inhibit	• DC link voltage too high • Ground fault	• Extend deceleration ramps • Check supply cable to the braking resistor • Check technical data of braking resistor • Eliminate ground fault
08	Speed monitoring	Immediate switch-off with inhibit	Current controller works at the set limit due to: • Mechanical overload • Phase failure in supply system • Phase failure in motor Maximum speed for VFC operating modes exceeded	• Reduce load • Increase deceleration time setting P501 • Check current limitation • Extend deceleration ramps • Check mains phases • Check motor cable and motor • Reduce maximum speed
10	ILLOP	Stop with inhibit	• Wrong command during command execution • Incorrect conditions during command execution • Function does not exist / is not implemented in the inverter	• Check the program • Check program run • Use another function
11	Overtempera-ture	Stop with inhibit	Thermal overload of inverter	• Reduce load and / or ensure adequate cooling • If a braking resistor is integrated in the heat sink: Install braking resistor externally

No.	Designation	Response	Possible cause	Measure
17-24	System error	Immediate switch-off with inhibit	Malfunction of inverter electronics, possibly due to EMC influence	Check grounding and shielding and improve, if necessary. Contact SEW Service for advice if this reoccurs.
25	EEPROM	Stop with inhibit	Error when accessing EEPROM	Activate factory settings, perform reset and reset parameters. Contact SEW Service for advice if this error reoccurs.
26	External terminal	Program-mable	Read external error signal via programmable input	Eliminate specific cause of error; reprogram terminal if necessary.
31	TF trip	Stop with inhibit	• Motor too hot, TF sensor has tripped • TF sensor of motor not connected or connected incorrectly • Connection of MOVITRAC® B and TF on motor interrupted	• Let motor cool off and reset error • Check connections/links between MOVITRAC® B and TF.
32	Index overflow	Emergency stop	Programming principles violated which leads to system-internal stack overflow	Check user program and correct it
34	Ramp timeout	Immediate switch-off with inhibit	• Set ramp time exceeded. • If you remove the inhibit and the drive exceeds the stop ramp time t13 by a certain time, the inverter will signal F34.	• Extend the ramp time • Extend the stop ramp time
37	Watchdog timer	Immediate switch-off with inhibit	Error in system software sequence	Check grounding and shielding and improve, if necessary. Contact SEW Service for advice if this reoccurs.
38	System software	Immediate switch-off with inhibit	System error	Check grounding and shielding and improve, if necessary. Contact SEW Service for advice if this reoccurs.
43	RS-485 timeout	Stop without inhibit[1)]	Connection between inverter and PC interrupted	Check connection between inverter and PC.
44	Unit utilization	Immediate switch-off with inhibit	Unit utilization (Ixt value) exceeded	• Decrease power output • Extend ramps • If these points are not possible: Use a larger inverter
45	Initialization	Immediate switch-off with inhibit	Error during initialization	Contact SEW Service for advice.
46	System bus 2 timeout	Stop without inhibit	Error during communication via system bus	Check system bus connection
47	System bus 1 timeout	Stop without inhibit	Error during communication via system bus	Check system bus connection
77	Control word	–	System error	Contact SEW Service for advice.

No.	Designation	Response	Possible cause	Measure
81	Start condition	Immediate switch-off with inhibit	**Only in "VFC hoist" operating mode:** The motor could not be supplied with the correct amount of current during the pre-magnetizing time: • Rated motor power too small in relation to rated inverter power • Motor cable cross-section too small	• Check connection between inverter and motor • Check startup data and perform new startup, if necessary • Check cross-section of motor cable and increase if necessary
82	Open output	Immediate switch-off with inhibit	**Only in "VFC hoist" operating mode:** • 2 or all output phases interrupted • Rated motor power too small in relation to rated inverter power	• Check connection between inverter and motor • Check startup data and perform new startup, if necessary
84	UL motor protection	Stop with inhibit	Motor utilization too high	• Check P345/346 I_N-U_L monitoring • Reduce load • Extend ramps • Long pause times
94	EEPROM checksum	Immediate switch-off with inhibit	Defective EEPROM	Contact SEW Service.
97	Copy error	Immediate switch-off with inhibit	• Parameter module is removed during copying process • Switching off/on during copying process	Prior to confirming the error: • Load factory setting or complete data set from parameter module

1) No reset required, error message disappears after communication is reestablished

6.3 Status displays

6.3.1 LED flash codes

The LED on the front of the unit signals the following states:

Status	Display (optional with FBG)	Color	Flash code
"ENABLE"	Speed	Green	Constant light
"ENABLE" at current limit	Speed	Green	Rapid flashing
"CURRENT AT STANDSTILL"	dc	Green	Slow flashing
"NO ENABLE"	Stop	Yellow	Constant light
"FACTORY SETTING"	SEt	Yellow	Rapid flashing
"CONTROL.INHIBIT"	oFF	Yellow	Rapid flashing
"24 V operation"	24U	Yellow	Slow flashing
FBG manual operation active or inverter stopped using "stop" button	FBG manual operation symbol or "stop" is flashing	Yellow	On long, off briefly
Timeout	Errors 43 / 46 / 47	Green / yellow	Flashing
Copy	Error 97	Red/yellow	Flashing
System error	Errors 10 / 17 ... 24 / 25 / 32 / 37 / 38 / 45 / 77 / 94	Red	Constant light
Overvoltage / phase failure	Errors 4 / 6 / 7	Red	Slow flashing
Overload	Errors 1 / 3 / 11 / 44 / 84	Red	Rapid flashing
Monitoring	Errors 8 / 26 / 34 / 81 / 82	Red	2 x flashing
TF motor protection	Errors 31 / 84	Red	3 x flashing

6.4 SEW Electronics service

6.4.1 Hotline

Call the Drive Service Hotline to talk to an SEW-EURODRIVE service specialist on 365 days a year, 24 hours a day.

Simply dial the prefix **01805** and then enter the key combination **SEWHELP**. Or simply dial **018057394357**.

6.4.2 Repair service

Please contact the **SEW Electronics Service if you can not rectify a fault.**

Please always specify the unit status code number when you contact the SEW electronics service so that our service personnel can assist you more effectively.

Please provide the following information when sending the unit in for repair:
Serial number (→ nameplate)
Unit Designation
Short description of application (application, control via terminals or serial)
Connected motor (motor voltage, star or delta connection)
Nature of the error
Accompanying circumstances
Your own presumptions as to what has happened
Unusual events preceding the problem

6.5 Long term storage

If the unit is being stored for a long time, connect it to the mains voltage for at least 5 minutes every 2 years. Else, the unit's service life may be shortened.

Handling electrolytic capacitors after long storage periods

All electrolytic capacitors can be stored deenergized without losing performance for at least two years. They can be loaded with rated voltage during this period.

After being stored for longer than two years, the connection response to high initial remaining currents is significant. After storage for two years, installed electrolytic capacitors are regenerated after one hour of interference-free operation of the connection (with maximum rated voltage) and can then be stored again.

Forming Process

SEW-EURODRIVE recommends forming the electrolytic capacitors slowly to avoid excess gas formation within the capacitor.

If a unit is formed internally, voltage should be conducted via a transformer to enable a slow and steady increase of voltage. Voltage should first be set at 0 V and then increased to the first forming voltage.

The following forming levels with respective dwell times are recommended:

- 70 % V_{rated_max}: 15 minutes
- 85 % V_{rated_max}: 15 minutes
- 100 % V_{rated_max}: 1 hour

7 Technical data

7.1 CE marking, UL approval and C-Tick

7.1.1 CE marking

Low voltage directive

MOVITRAC® B frequency inverters comply with the regulations of the Low Voltage Directive 73/23/EEC and have the CE mark on the nameplate to this effect.

Electromagnetic compatibility (EMC)

The designated use of MOVITRAC® B frequency inverters is as components for installation in machinery and systems. They comply with the EMC product standard EN 61800-3 *Variable-speed electrical drives*. Provided the installation instructions are complied with, they satisfy the relevant requirements for the CE marking for the entire machine / system in which they are installed, on the basis of the EMC Directive 89/336/EEC. For detailed information on EMC-compliant installation, refer to the publication "Electromagnetic Compatibility in Drive Engineering" from SEW-EURODRIVE.

Compliance with limit classes A and B has been tested on a specified test setup. SEW-EURODRIVE can provide detailed information on request.

7.1.2 UL approval

UL and cUL approval has been granted for the MOVITRAC® B sizes 0S and 0L. cUL approval has been applied for for the other units. cUL is equivalent to CSA.

7.1.3 C-Tick

C-Tick approval has been applied for for the entire MOVITRAC® B series. C-Tick certifies conformity with ACA (Australian Communications Authority) standards.

7.2 General technical data

The following technical data applies to all MOVITRAC® B frequency inverters, irrespective of size and power:

MOVITRAC® B:	All sizes
Interference immunity	Fulfills EN 61800-3
Interference emission with EMC compliant installation	According to limit value class • 1-phase connection: **A / B** • 3-phase connection: **A** – 230 V: 0.25 ... 7.5 kW – 400/500 V: 0.25 ... 11 kW According to EN 55011 and EN 55014; meets EN 61800-3
Leakage current	> 3.5 mA
Ambient temperature ϑ_A	• 230 V, 0.25 ... 2.2 kW / 400/500 V, 0.25 ... 4.0 kW –10 °C... +50 °C at I_D = 100 % I_N and f_{PWM} = 4 kHz –10 °C... +40 °C at I_D = 125 % I_N and f_{PWM} = 4 kHz –10 °C... +40 °C at I_D = 100 % I_N and f_{PWM} = 8 kHz • 400/500 V, 5.5 ... 45 kW 0 °C ... +50 °C at I_D = 100 % I_N and f_{PWM} = 4 kHz 0 °C ... +40 °C at I_D = 125 % I_N and f_{PWM} = 4 kHz 0 °C ... +40 °C at I_D = 100 % I_N and f_{PWM} = 8 kHz • Mounting platform with "cold plate" < 70 °C
Derating ambient temperature	• 3% I_N per K at 50 °C ... 60 °C
Climate class	EN 60721-3-3, class 3K3
Storage temperature[1)] Shipping temperature	–25 °C... +75 °C –25 °C... +75 °C
Type of cooling	Self-cooled: 230 V: ≤ 0.75 kW 400/500 V: ≤ 1.1 kW Forced cooled: 230 V: ≥ 1.1 kW 400/500 V: ≥ 1.5 kW
Enclosure	IP20
Operating mode	Continuous duty (EN 60149-1-1 and 1-3)
Overvoltage category	III according to IEC 60664-1 (VDE 0110-1)
Pollution class	2 according to IEC 60664-1 (VDE 0110-1)
Installation altitude	Up to h ≤ 1000 m without restrictions. At h ≥ 1000 m (3280 ft), the following restrictions apply: • From 1000 m (3280 ft.) to max. 4000 m (6561 ft.): – I_N reduction by 1 % per 100 m • From 2000 m (6,561 ft.) to max. 4000 m (13,123 ft.): – AC 230 V units: V_N reduction by AC 3 V per 100 m (330 ft) – AC 500 V units: V_N reduction by AC 6 V per 100 m (330 ft) Over 2000 m only overvoltage class 2, external measures are required for overvoltage class 3. Overvoltage classes according to DIN VDE 0110-1.
Size 0: Limitations for continuous duty with 125 % I_N	• Maximum ambient temperature ϑ_A: 40 °C • Maximum supply voltage V_{Mains}: 400 V • No DIN rail mounting / submounting resistor • with 1 x 230 V: Provide line choke ND

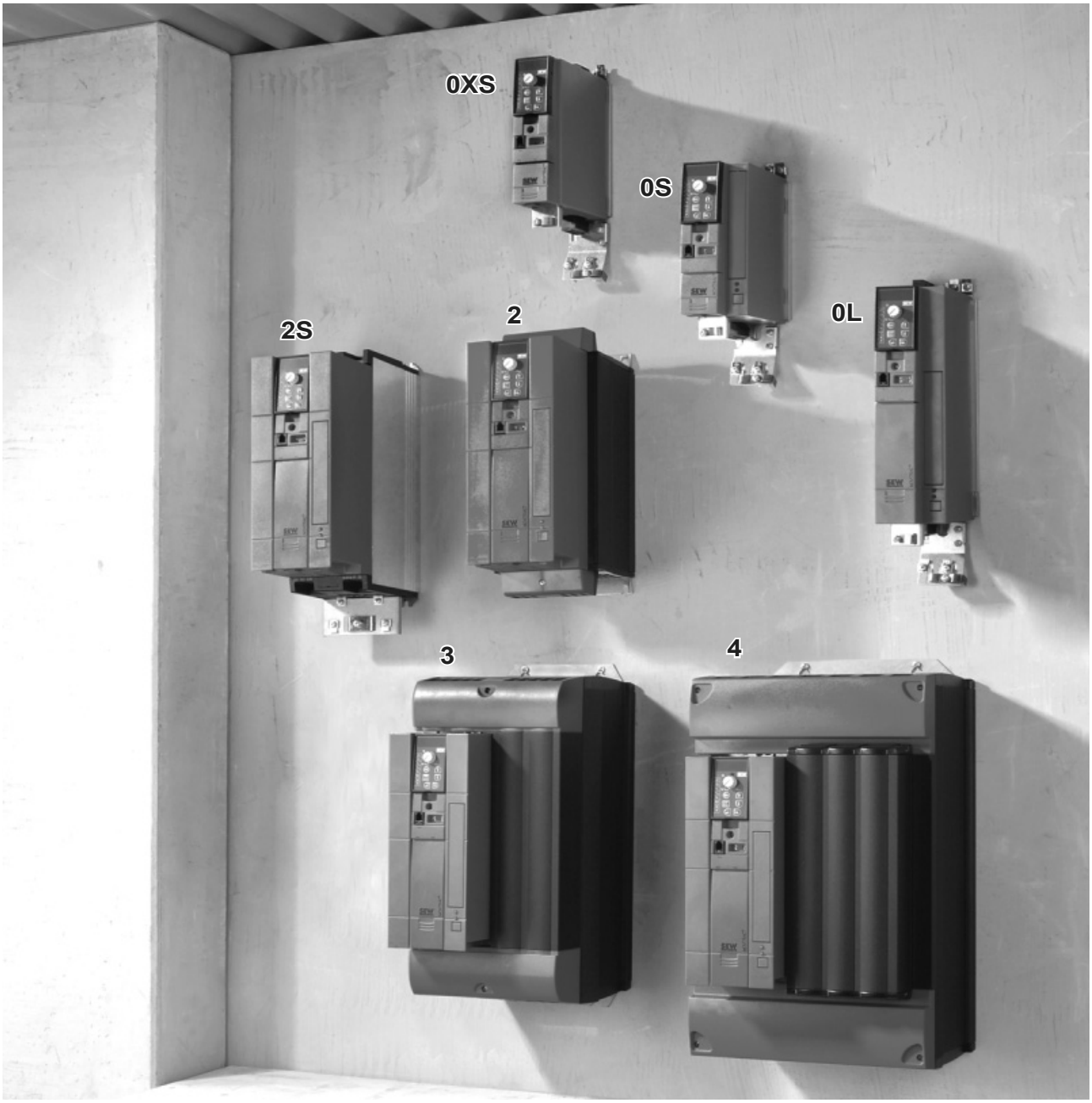
1) If the unit is being stored for a long time, connect it to the mains voltage for at least 5 minutes every 2 years. Else, the unit's service life may be shortened.

7.3 MOVITRAC® B electronics data

Function	Terminal	Designation	Default	Data
Setpoint input (differential input)	X10:1 X10:2 X10:3 X10:4	REF1 AI11 (+) AI12 (0) GND		0 ... +10 V (R_i > 200 kΩ) 0 ... 20 mA / 4 ... 20 mA (R_i = 250 Ω) Resolution 10 Bit, sample cycle 1 ms GND = Reference potential for binary and analog signals, PE potential
Binary inputs	X12:1 X12:2 X12:3 X12:4 X12:5 X12.6	DI00 DI01 DI02 DI03 DI04 DI05TF	Error reset CW/Stop CCW/Stop Enable/Rapid stop n11/n21 n12/n22	Ri = 3 kΩ, I_E = 10 mA, sample cycle 5 ms, PLC compatible Signal level according to EN 61131-2 type 1 or 3: • +11 ... +30 V → 1 / contact made • –3 ... +5 V → 0 / contact open • X12:2 / DI01 with fixed assignment CW/Stop • X12:5 / DI04 can be used as frequency input • X12:6 / DI05 can be used as TF input
Supply voltage for TF	X12:7	VOTF		Special characteristics for TF according to DIN EN 60947-8
Auxiliary supply output / External voltage supply	X12:8	24VIO		Auxiliary supply output: V = 24V DC, current carrying capacity I_{max} = 50 mA External voltage supply: V = 24V DC –15 % / +20 % to EN 61131-2
Reference terminal	X12:9	GND		Reference potential for binary and analog signals, PE potential
Binary outputs	X13:1 X13:2 X13:3 X13:4	GND DO02 DO03 GND	Brake released Ready for operation	PLC compatible, response time 5 ms, I_{max} DO02 = 150 mA, I_{max} DO03 = 50 mA, short-circuit proof, protected against external voltage up to 30 V GND = Reference potential for binary and analog signals, PE potential
Relay output	X13:5 X13:6 X13:7	DO01-C DO01-NO DO01-NC		Shared relay contact NO contact NC contact Load capacity: V_{max} = 30 V, I_{max} = 800 mA
Safety contact (from BG2S / in preparation)	X17:1 X17:2 X17:3 X17:4	Reserved		
Terminal response times	Binary input and output terminals are updated every 5 ms			
Max. cable cross-section	1.5 mm^2 (AWG15) without conductor end sleeves 1.0 mm^2 (AWG17) with conductor end sleeves			

7.4 MOVITRAC® B technical data

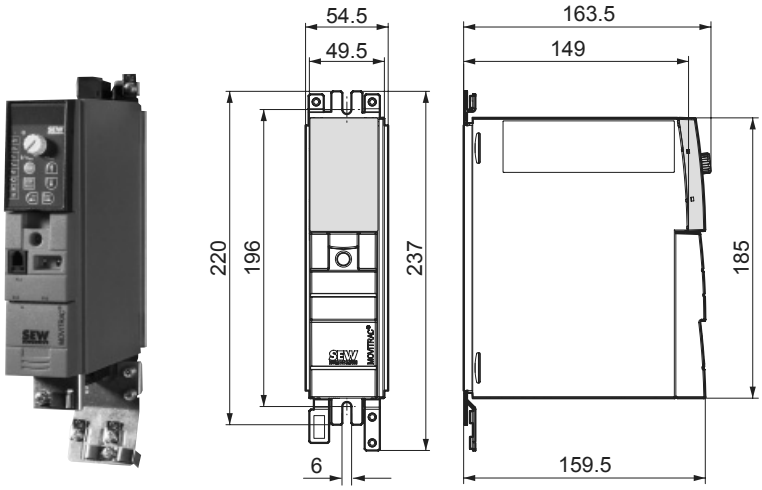
7.4.1 MOVITRAC® B overview



230 V / 1-phase power supply connection			
Size	**0XS**	**0S**	**0L**
Power [kW / HP]	0.25 / 0.4 0.37 / 0.5	0.55 / 0.75 0.75 / 1.0	1.1 / 1.5 1.5 / 2.0 2.2 / 3.0

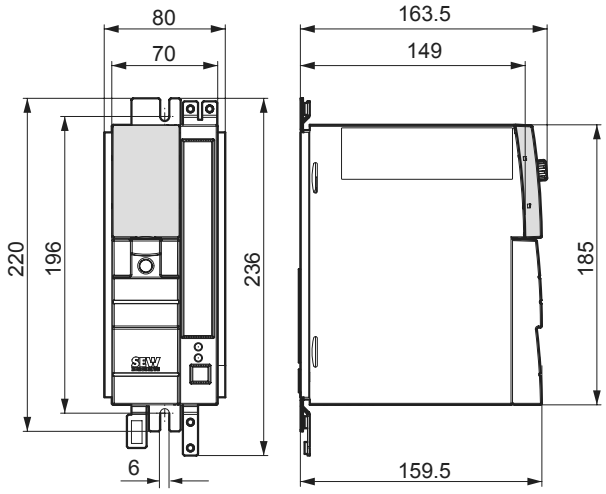
400 / 500 V / 3-phase power supply connection							
Size	**0XS**	**0S**	**0L**	**2S**	**2**	**3**	**4**
Power [kW / HP]	0.25 / 0.4 0.37 / 0.5	0.55 / 0.75 0.75 / 1.0 1.1 / 1.5 1.5 / 2.0	2.2 / 3.0 3.0 / 4.0 4.0 / 5.0	5.5 / 7.5 7.5 / 10	11 / 15	15 / 20 22 / 30 30 / 40	37 / 50 45 / 60

7.4.2 AC 230 V / 1-phase / size 0XS / 0.25 ... 0.37 kW / 0.4... 0.5 HP



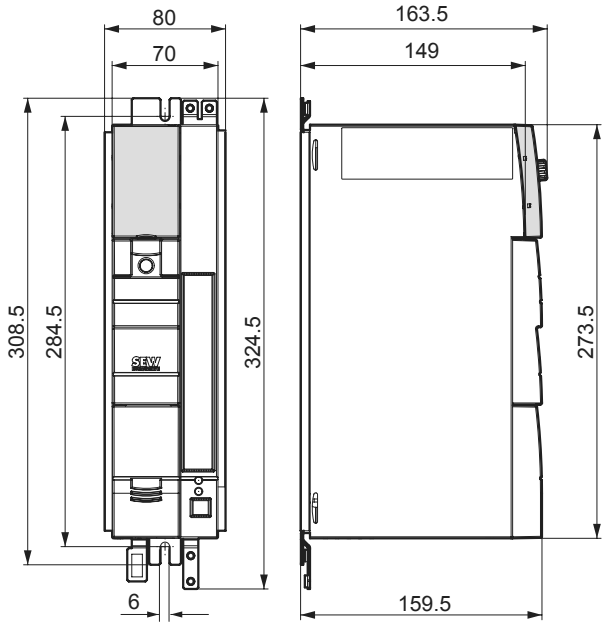
MOVITRAC® MC07B (1-phase supply system) Part number		0003-2B1-4-00 828 491 1	0004-2B1-4-00 828 493 8
INPUT			
Permitted rated supply voltage	V_N	1 × AC 230 V V_{Mains} = AC 200 V – 10 % ... AC 240 V + 10 %	
Rated supply frequency	f_N	50 / 60 Hz ± 5 %	
Rated mains current 1-phase with V_{Mains} = AC 230 V		AC 4.3 A	AC 6.1 A
OUTPUT			
Output voltage	V_A	3 × 0 ... V_{Mains}	
Recommended motor power under constant load (with V_{Mains} = AC 230 V)	P_{Mot}	0.25 kW 0.4 HP	0.37 kW 0.5 HP
Rated output current with V_{Mains} = AC 230 V	I_N	AC 1.7 A	AC 2.5 A
Minimum braking resistor value (4-Q operation)	R_{BW_min}	27 Ω	
GENERAL INFORMATION			
Power loss at I_N	P_V	30 W	35 W
Current limitation		150 % I_N for maximum 60 seconds	
Connections		Terminals 4 mm^2 / AWG12	
Dimensions	W × H × D	55 × 185 × 163 mm / 2.0 × 7.3 × 6.4 in	
Weight	m	1.3 kg / 2.9 lbs.	

7.4.3 AC 230 V / 1-phase / size 0S / 0.55 ... 0.75 kW / 0.75 ... 1.0 HP



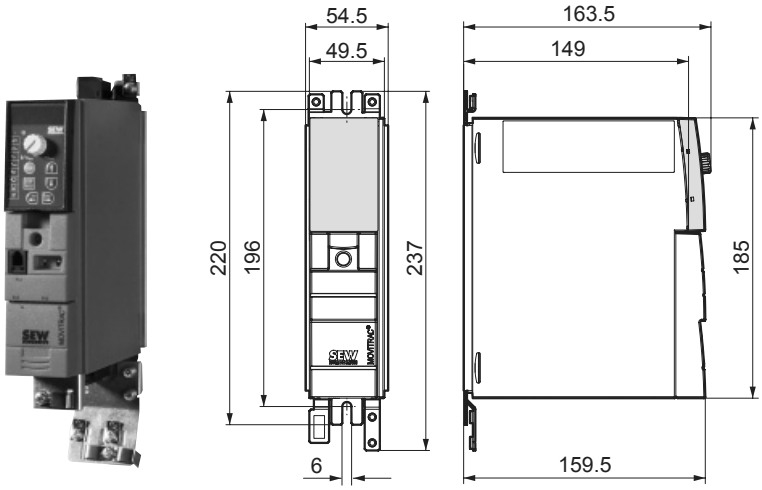
MOVITRAC® MC07B (1-phase supply system) Part number		0005-2B1-4-00 828 494 6	0008-2B1-4-00 828 495 4
INPUT			
Permitted rated supply voltage	V_N	1 × AC 230 V V_{Mains} = AC 200 V – 10 % ... AC 240 V + 10 %	
Rated supply frequency	f_N	50 / 60 Hz ± 5 %	
Rated mains current 1-phase with V_{Mains} = AC 230 V		AC 8.5 A	AC 9.9 A
OUTPUT			
Output voltage	V_A	3 × 0 ... V_{Mains}	
Recommended motor power under constant load (with V_{Mains} = AC 230 V)	P_{Mot}	0.55 kW 0.75 HP	0.75 kW 1.0 HP
Rated output current with V_{Mains} = AC 230 V	I_N	AC 3.3 A	AC 4.2 A
Minimum braking resistor value (4-Q operation)	R_{BW_min}	27 Ω	
GENERAL INFORMATION			
Power loss at I_N	P_V	55 W	65 W
Current limitation		150 % I_N for maximum 60 seconds	
Connections		Terminals 4 mm^2 / AWG12	
Dimensions	W × H × D	80 × 185 × 163 mm / 3.1 × 7.3 × 6.4 in	
Weight	m	1.5 kg / 3.3 lbs.	

7.4.4 AC 230 V / 1-phase / size 0L / 1.1 ... 2.2 kW / 1.5 .. 3.0 HP



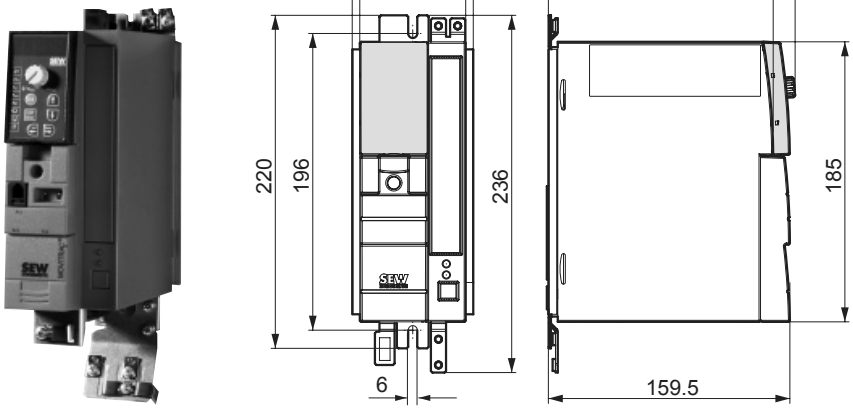
MOVITRAC® MC07B (1-phase supply system) Part number		0011-2B1-4-00 828 496 2	0015-2B1-4-00 828 497 0	0022-2B1-4-00 828 498 9
INPUT				
Permitted rated supply voltage	V_N	1 × AC 230 V V_{Mains} = AC 200 V – 10 % ... AC 240 V + 10 %		
Rated supply frequency	f_N	50 / 60 Hz ± 5 %		
Rated mains current 1-phase with V_{Mains} = AC 230 V		AC 13.4 A	AC 16.7 A	AC 19.7 A
OUTPUT				
Output voltage	V_A	3 × 0 ... V_{Mains}		
Recommended motor power under constant load (with V_{Mains} = AC 230 V)	P_{Mot}	1.1 kW 1.5 HP	1.5 kW 2.0 HP	2.2 kW 3.0 HP
Rated output current with V_{Mains} = AC 230 V	I_N	AC 5.7 A	AC 7.3 A	AC 8.6 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	27 Ω		
GENERAL INFORMATION				
Power loss at I_N	P_V	75 W	100 W	125 W
Current limitation		150 % I_N for maximum 60 seconds		
Connections	Terminals	4 mm^2 / AWG12		
Dimensions	W × H × D	80 × 273.5 × 163 mm / 3.1 × 10.8 × 6.4 in		
Weight	m	2.2 kg / 4.9 lbs.		

7.4.5 AC 400 / 500 V / 3-phase / size 0XS / 0.25 ... 0.37 kW / 0.4... 0.5 HP



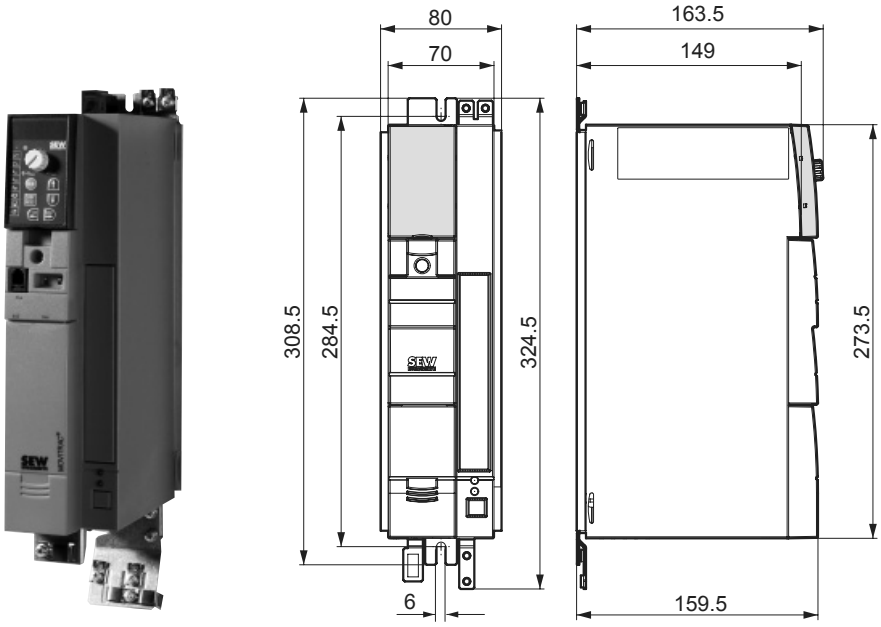
MOVITRAC® MC07BB (3-phase supply system) Part number		0003-5A3-4-00 828 515 2	0004-5A3-4-00 828 516 0
INPUT			
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %	
Rated supply frequency	f_N	50 / 60 Hz ± 5 %	
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 0.9 A	AC 1.4 A
OUTPUT			
Output voltage	V_A	3 × 0 ... V_{Mains}	
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	0.25 kW 0.4 HP	0.37 kW 0.5 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 1.0 A	AC 1.6 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	68 Ω	
GENERAL INFORMATION			
Power loss at I_N	P_V	30 W	35 W
Current limitation		150 % I_N for maximum 60 seconds	
Connections	Terminals	4 mm^2 / AWG12	
Dimensions	W × H × D	50 × 185 × 163 mm / 2.0 × 7.3 × 6.4 in	
Weight	m	1.3 kg / 2.9 lbs.	

7.4.6 AC 400 / 500 V / 3-phase / size 0S / 0.55 ... 1.5 kW / 0.75... 2.0 HP



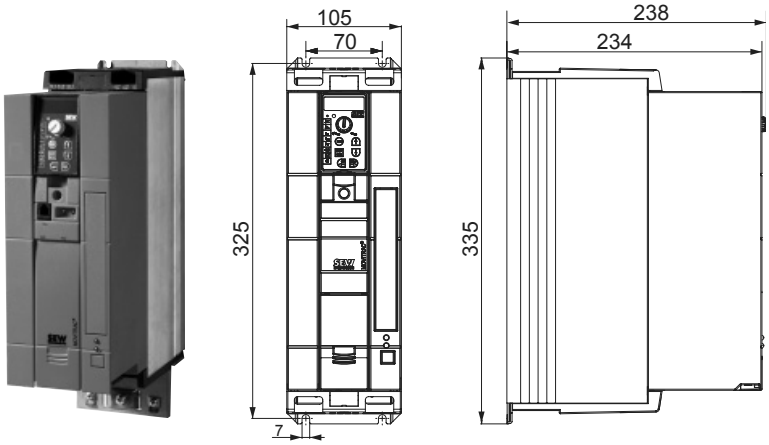
MOVITRAC® MC07B (3-phase supply system)		0005-5A3-4-00	0008-5A3-4-00	0011-5A3-4-00	0015-5A3-4-00
Part number		**828 517 9**	**828 518 7**	**828 519 5**	**828 520 9**
INPUT					
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %			
Rated supply frequency	f_N	50 / 60 Hz ± 5 %			
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 1.8 A	AC 2.2 A	AC 2.8 A	AC 3.6 A
OUTPUT					
Output voltage	V_A	3 × 0 ... V_{Mains}			
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	0.55 kW 0.75 HP	0.75 kW 1.0 HP	1.1 kW 1.5 HP	1.5 kW 2.0 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 2.0 A	AC 2.4 A	AC 3.1 A	AC 4.0 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	68 Ω			
GENERAL INFORMATION					
Power loss at I_N	P_V	42 W	48 W	58 W	74 W
Current limitation		150 % I_N for maximum 60 seconds			
Connections	Terminals	4 mm^2 / AWG12			
Dimensions	W × H × D	80 × 185 × 163 mm / 3.1 × 7.3 × 6.4 in			
Weight	m	1.5 kg / 3.3 lbs.			

7.4.7 AC 400/500 V / 3-phase / size 0L / 2.2 ... 4.0 kW / 3.0... 5.0 HP



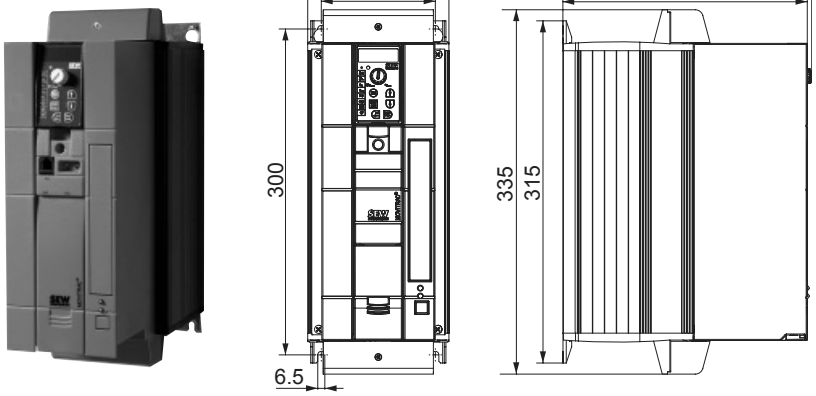
MOVITRAC® MC07B (3-phase supply system) Part number		0022-5A3-4-00 828 521 7	0030-5A3-4-00 828 522 5	0040-5A3-4-00 828 523 3
INPUT				
Permitted rated supply voltage	U_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %		
Rated supply frequency	f_N	50 / 60 Hz ± 5 %		
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 5.0 A	AC 6.3 A	AC 9.5 A
OUTPUT				
Output voltage	V_A	3 × 0 ... V_{Mains}		
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	2.2 kW 3.0 HP	3.0 kW 4.0 HP	4.0 kW 5.0 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 5.5 A	AC 7.0 A	AC 9.5 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	68 Ω		
GENERAL INFORMATION				
Power loss at I_N	P_V	97 W	123 W	155 W
Current limitation		150 % I_N for maximum 60 seconds		
Connections	Terminals	4 mm^2 / AWG12		
Dimensions	W × H × D	80 × 273.5 × 163 mm / 3.1 × 10.8 × 6.4 in		
Weight	m	2.1 kg / 4.6 lbs.		

7.4.8 AC 400/500 V / 3-phase / size 2S / 5.5 ... 7.5 kW / 7.5 ... 10 HP



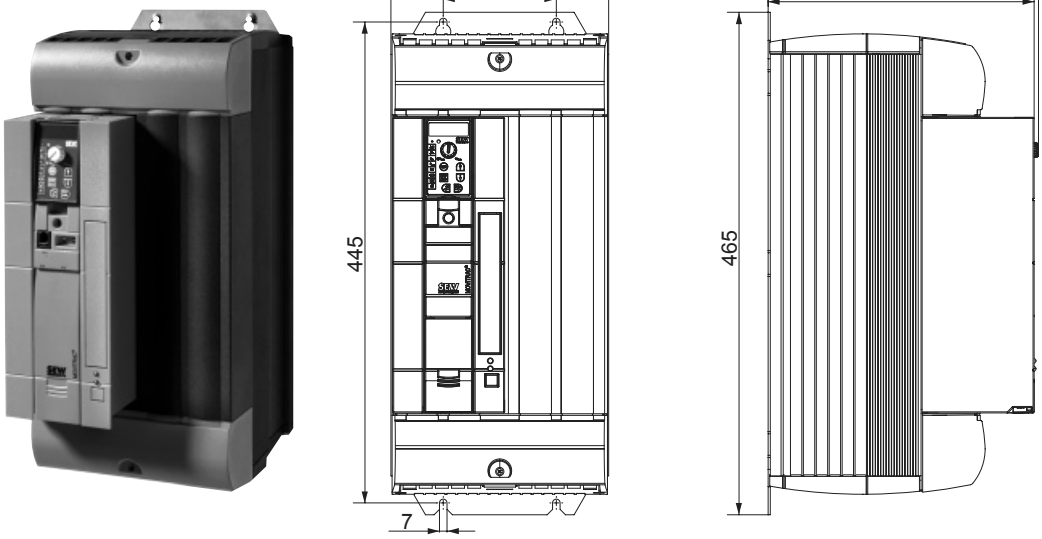
MOVITRAC® MV07B (3-phase supply system) Part number		0055-5A3-4-00 828 524 1	0075-5A3-4-00 828 526 8
INPUT			
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %	
Rated supply frequency	f_N	50 / 60 Hz ± 5 %	
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 11.3 A	AC 14.4 A
OUTPUT			
Output voltage	V_A	3 × 0 ... V_{Mains}	
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	5.5 kW 7.5 HP	7.5 kW 10 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 12.5 A	AC 16 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	47 Ω	
GENERAL INFORMATION			
Power loss at I_N	P_V	220 W	290 W
Current limitation		150 % I_N for maximum 60 seconds	
Connections	Terminals	4 mm^2 / AWG12	
Dimensions	W × H × D	105 × 335 × 238 mm / 4.1 × 13.2 × 9.4 in	
Weight	m	5.0 kg / 11.0 lbs.	

7.4.9 AC 400/500 V / 3-phase / size 2 / 11 kW / 15 HP



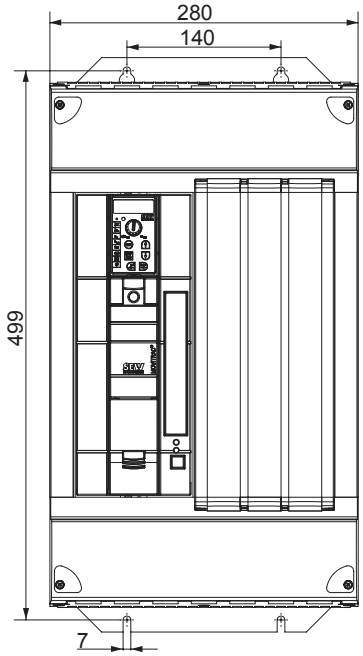
MOVITRAC® MC07B (3-phase supply system) Part number		0110-5A3-4-00 828 527 6
INPUT		
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %
Rated supply frequency	f_N	50 / 60 Hz ± 5 %
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 21.6 A
OUTPUT		
Output voltage	V_A	3 × 0 ... V_{Mains}
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	11 kW 15 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 24 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	22 Ω
GENERAL INFORMATION		
Power loss at I_N	P_V	400 W
Current limitation		150 % I_N for maximum 60 seconds
Connections	Terminals	4 mm^2 / AWG12
Dimensions	W × H × D	130 × 335 × 229 mm / 5.1 × 13.2 × 9.0 in
Weight	m	6.6 kg / 14.6 lbs.

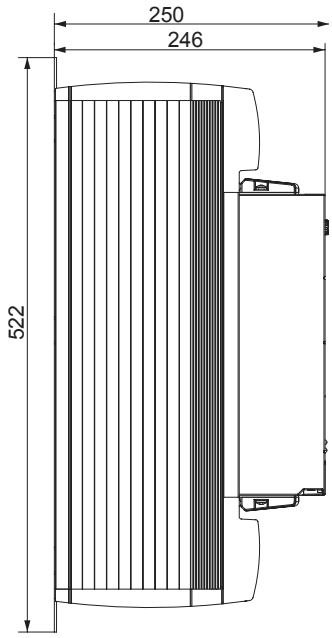
7.4.10 AC 400/500 V / 3-phase / size 3 / 15... 30 kW / 20... 40 HP



MOVITRAC® MC07B (3-phase supply system) Part number		0150-503-4-00 828 528 4	0220-503-4-00 828 529 2	0300-503-4-00 828 530 6
INPUT				
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %		
Rated supply frequency	f_N	50 / 60 Hz ± 5 %		
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 28.8 A	AC 41.4 A	AC 54.0 A
OUTPUT				
Output voltage	V_A	3 × 0 ... V_{Mains}		
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	15 kW 20 HP	22 kW 30 HP	30 kW 40 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 32 A	AC 46 A	AC 60 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	15 Ω		12 Ω
GENERAL INFORMATION				
Power loss at I_N	P_V	550 W	750 W	950 W
Current limitation		150 % I_N for maximum 60 seconds		
Connections	Terminals	6 mm^2 / AWG10	10 mm^2 / AWG8	16 mm^2 / AWG6
Dimensions	W × H × D	200 × 465 × 251 mm / 7.9 × 18.3 × 9.9 in		
Weight	m	15 kg / 33.1 lbs.		

7.4.11 AC 400/500 V / 3-phase / size 4 / 37... 45 kW / 50... 60 HP





MOVITRAC® MC07B (3-phase supply system) Part number		0370-503-4-00 828 531 4	0450-503-4-00 828 532 2
INPUT			
Permitted rated supply voltage	V_N	3 × AC 400 V V_{Mains} = AC 380 V – 10 % ... AC 500 V + 10 %	
Rated supply frequency	f_N	50 / 60 Hz ± 5 %	
Rated mains current 3-phase with V_{Mains} = AC 400 V		AC 65.7 A	AC 80.1 A
OUTPUT			
Output voltage	V_A	3 × 0 ... V_{Mains}	
Recommended motor power under constant load (with V_{Mains} = AC 400 V)	P_{Mot}	37 kW 50 HP	45 kW 60 HP
Rated output current with V_{Mains} = AC 400 V	I_N	AC 73 A	AC 89 A
Minimum permitted braking resistor value (4-Q operation)	R_{BW_min}	6 Ω	
GENERAL INFORMATION			
Power loss at I_N	P_V	1200 W	1400 W
Current limitation		150 % I_N for maximum 60 seconds	
Connections	Terminals	25 mm^2 / AWG4	35 mm^2 / AWG2
Dimensions	W × H × D	280 × 522 × 250 mm / 11.0 × 20.6 × 9.8 in	
Weight	m	27 kg / 59.5 lbs.	

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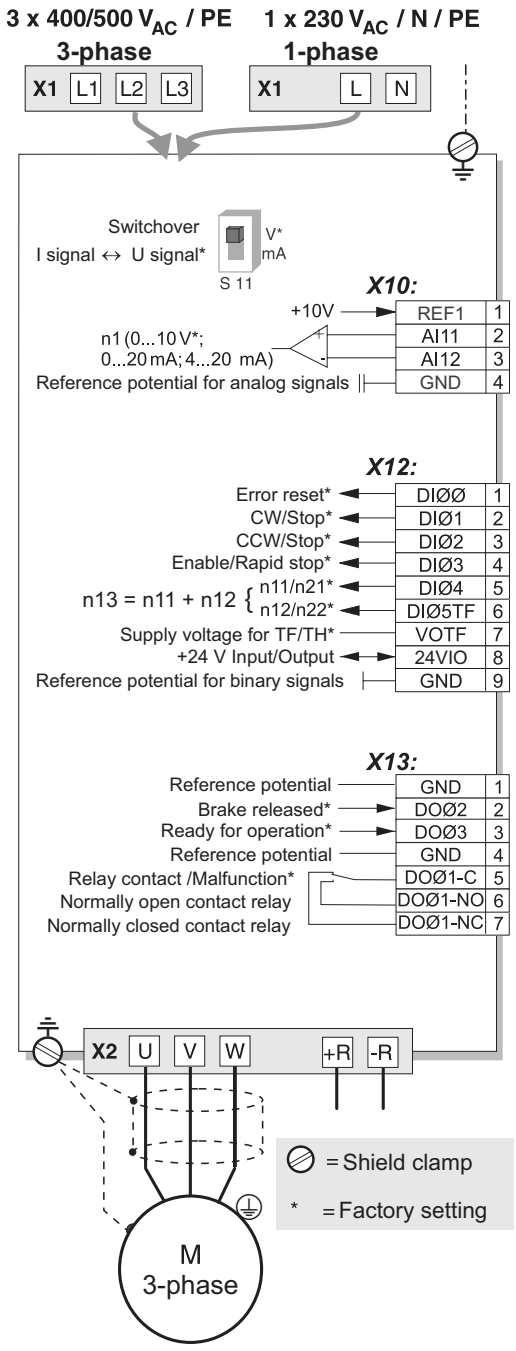
Startup: Brief description

The frequency inverter MOVITRAC® B can be connected directly to a motor of the same power. For example: A 1.5 kW motor can be connected directly to a MC07B0015.

Procedure

1. Connect the motor to the MOVITRAC® B (terminal X2).
2. You have the option of connecting a braking resistor (terminal X2).
3. The following signal terminals must be controlled with your control system:
   - Enable DI03
   - As required: CW/STOP DI01 or CCW/STOP DI02
   - Setpoint:
     – Analog input X10 and/or
     – DI04 = n11 = 150 rpm and/or
     – DI05 = n12 = 750 rpm and/or
     – DI04 + DI05 = n13 = 1500 rpm
   - For brake motors: DO02 = brake control system using brake rectifiers
4. You have the option of connecting the following signal terminals:
   - DI00 = error reset
   - DO01 = /malfunction (designed as a relay contact)
   - DO03 = ready
5. Check the controller for required functionality.
6. Connect the frequency inverter to the mains (X1).



Notes

Signal terminal functions and setpoint settings can be modified using the FBG11B keypad or a PC. A PC connection requires the FSC11B front option or one of the following interface adapters: UWS21A / UWS11A / USB11A.

The MOVITRAC® B frequency inverter should only be operated in strict observance of the detailed operating instructions!

How we're driving the world

With people who think fast and develop the future with you.

With a worldwide service network that is always close at hand.

With drives and controls that automatically improve your productivity.

With comprehensive knowledge in virtually every branch of industry today.

With uncompromising quality that reduces the cost and complexity of daily operations.

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